

CYTOLOGICAL ASPECTS OF SALIVARY GLANDS OF *RHYNCHOSCIARA AMERICANA* DURING METAMORPHOSIS

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The programmed cell death plays an important role in the biological development. In *Rhynchosciara americana* the salivary glands have been target of study for decades due to its characteristics polytene chromosomes and developmentally regulated gene amplification. However its development dynamics is still poorly understood. Aiming to study the morphological changes of salivary gland during the pupal period we carried out different **microscopic** techniques which evidenced chromatin condensation and fragmentation, as well as cytoplasmic alterations. Both transmission electronic microscopy and confocal microscopy of advanced pupae salivary gland showed cells in slightly different stages of death. Sequential observations of this process were performed by time-lapse video enhanced microscopy. Concomitantly, we identified and sequenced the Dad-1 gene (Defender against cell death), present in a cDNA library, which was constructed from messengers in third instar, period that precedes the formation of the cocoon, before the metamorphosis. Dad-1 is evolutionary conserved, described as inhibitor of programmed cell death during development, thus being able to indicate its participation in the regulation of this process in this model. (Supported by FAPESP and CNPq)